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Demographic and Attitudinal Variables Related to High-Risk Behaviors in Asian Males Who Have Sex with Other Men

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ABSTRACT

Although AIDS is spreading rapidly in minority communities, little is known about attitudes, knowledge, and behavior related to AIDS and HIV in the Asian community. The purpose of this study was to examine these variables in a sample of gay Asian males, as well as to investigate the relationship between knowledge, sources of information, culturally influenced attitudes and high-risk behaviors in this population. Results from a sample of 60 young Asian men who self-identified as "having sex with other men" indicated they were generally knowledgeable about methods of transmission and prevention, and appeared linked to a large information network that included informal sources such as peers and formal sources. However, significant percentages held culturally biased views of AIDS, such as believing race of partner or one's own gender role in the sexual encounter determined level of risk; and one third of the sample did not use condoms regularly. Having been tested for HIV was associated with holding less traditional cultural beliefs and a higher sexual activity level. Open communication about safer sexual practices was associated with monogamous as opposed to multiple relationships and with decreased tendency to engage in alcohol-related unprotected sex. Variance in overall risk was predicted by demographic variables such as education, age, and level of sexual activity, rather than by the attitudinal factors measured. Limitations of this exploratory study include a time-limited subject recruitment period and consequent small sample size, a homogeneous sample weighted toward young, well-educated, and middle-class respondents, and the exclusion of non-English speaking individuals. Nevertheless, study findings suggest that educational outreach targeting Asians who have sex with other men needs to address inaccurate cultural beliefs about HIV/AIDS, emphasize consistent condom use, and encourage models of open communication with partners about safer sexual practices.

INTRODUCTION

DESPITE RECENT BREAKTHROUGHS in treatment, and renewed interest in vaccine development, AIDS remains a serious incurable disease, and the best hope for arresting its spread remains behavioral prevention. Al-

though research interest has focused increasingly on cultural factors associated with the rise of AIDS and HIV in minority populations,¹⁻⁵ there has been little investigation into relevant knowledge, attitudes, and behavior in the homosexual Asian community. Admittedly, rates of AIDS at the moment tend to be lower in this

population than among Latinos or African-Americans.⁶ However, AIDS is a growing public health problem in many Asian communities,⁷ particularly among men who have sex with other men.⁸

A series of Canadian studies investigated various immigrant ethnocultural communities, including Vietnamese, Chinese, African, and Caribbean, regarding attitudes and knowledge of AIDS/HIV.^{9,10} They point out the enormous stigma associated with homosexuality in the Asian community among others, with the consequence that sexual behavior (specifically men having sex with other men) is often seen as opportunistic and not considered related to sexual orientation. One study found that condom use among men having sex with other men was more frequent than among men having sex with women, and more accepted as a risk prevention method.¹¹ Another Canadian study¹² found specific cultural biases in the Asian community, such as the perception of Caucasian sexual partners as riskier because they were regarded as more promiscuous. This same study identified a general lack of knowledge about AIDS transmission in their sample, including the incorrect belief that unprotected anal sex was the only way AIDS could be transmitted. Most respondents did not appear to regard themselves as members of a high-risk group.

This study's research question focused on what demographic, informational, and attitudinal variables in a population of self-identified young Asian men "who had sex with other men" would be related to "high-risk" behaviors.

METHOD

Subjects

Subjects were 60 Asian males residing in the San Francisco area who stated that they regularly or frequently had sex with other men. Subjects were recruited through two AIDS Resource Centers in the Bay Area, specifically targeting the gay Asian population. The target age range selected for the study was 18–39 years because of evidence in the literature that this age group has the most AIDS cases, and is char-

acterized by more sexual activity.⁶ This is also an age group in which, according to some studies,^{13,14} individuals are more likely to perceive themselves at risk and to be more concerned about AIDS. Individuals who could not read English were excluded from the study because the survey used was not translated into any other languages.

A brief description of the study was available to all clients at the Centers. In addition, the second author spent 3 hours daily at one or the other Center, recruiting potential subjects and explaining the study in person. Individuals who were interested in participating were given a survey and allowed to use a small room at the Center to complete the information. Completed surveys were collected at the end of the day. During a 3-week period, the second author approached 85 individuals, of whom 70.6% agreed to complete the survey. Of the 25 individuals who declined, only two did not have adequate language proficiency, while most of the nonrespondents were due to lack of follow-up with materials (i.e., failure to complete forms). Study participants completed the written questionnaire on an individual basis and were instructed not to discuss the questionnaire with anyone. To ensure anonymity, subjects returned questionnaires either to the second investigator directly or to a Center staff person in an envelope. Because of the study's cross-sectional design, no identifying information was included on either the questionnaire or the envelope.

Measures

Information about subjects was obtained through the use of a 54-item survey designed by the authors, consisting of 10 demographic items, 9 items regarding trust of various formal and informal sources of information about AIDS and HIV, 9 knowledge questions, 6 questions regarding current sexual practices, including a 5-point scale on which respondents rated their current level of sexual activity from "not at all active" (1) to "very active" (5), 6 items regarding attitudes toward HIV testing, 6 items regarding comfort talking about safer sex practices with a partner, and 8 items regarding cultural views of sexuality and AIDS.

The survey took approximately 30 min to complete.

Several scales were constructed by combining individual questionnaire items based on face validity, then subsequently testing for internal consistency reliability using Cronbach's alpha coefficient. The following scales were used in statistical analyses as independent variables.

1. *Trust in Information*, a nine-item scale, with a coefficient alpha of .72. On a five-point scale, these items measured how much trust subjects placed in the accuracy of information about AIDS/HIV that they received from various sources, such as print and television media or health-care professionals. A high score indicated that the subject had more trust in the quality of information he received about AIDS/HIV. This scale was developed because of evidence in the literature that Asians are often stigmatized for seeking out information about AIDS.¹²
2. *Knowledge* was a 9-item scale, with an internal consistency reliability of .69. Items included questions regarding methods of transmission (ie., through blood, saliva, bodily fluids, casual contact), incubation period, accuracy of HIV testing, physical indications of presence of virus, and ability to cure AIDS. A high score indicated the subject had more knowledge regarding AIDS/HIV.
3. *Attitude toward HIV Testing*, a 6-item scale with .82 internal consistency reliability. Items included endorsement of statements such as "I am scared to be tested," and "I don't want to know my HIV status." A high score indicated that the subject had a negative attitude toward testing.
4. *Safe-Sex Communication* was a 6-item scale, alpha coefficient = .92. Examples of items are "I am embarrassed to talk about safe sex" and "Sex is a private matter that should not be openly discussed." A high score indicated that the subject felt uncomfortable discussing safer sex practices with a potential partner. This scale was developed because other studies have reported that discussion of sexual relations between Asian partners is extremely difficult.¹²

5. *Cultural Attitudes*, a 6-item scale with an alpha coefficient of .71. This scale included items such as "AIDS is not a problem in my culture" and "You can avoid contracting AIDS by choosing only same-race sexual partners." A high score indicated the subject held more stereotypic cultural beliefs.

Items in the Knowledge scale were derived from AIDS questions utilized in the National Health Interview Survey.¹⁵ Scales measuring Trust in Information, Attitudes toward HIV Testing, and Safe Sex Communication were variants of scales developed in an earlier study of a similarly aged community college sample.¹⁶ The items comprising the Cultural Attitudes scale were partially derived from Canadian studies^{9,12} addressing culturally related issues, but were also based on the personal observations of the second author.

The study's dependent variables were four categories of "high-risk" behavior, as well as an "overall risk" score represented by the sum of scores for all four high risk categories: (1) Currently promiscuous (more than one simultaneous, serial, or anonymous sexual partner). This definition of high risk was based on other studies that look at both number of partners and number of anonymous partners.¹³ (2) Never having been tested for HIV. The assumption was made that in a self-identified sample of "men having sex with men" knowing one's HIV status would be an appropriate precautionary safety measure. (3) Irregular condom use during sexual intercourse. Regular condom use is considered a standard component of safer sex practices. (4) Having had unprotected sex as a result of drug or alcohol use. This latter variable was selected because of reports of increasing frequency of inconsistent condom use associated with alcohol consumption among gay Asian males.⁹

Data analysis

Data were analyzed using Chi-square, two-tailed *t*-tests, and correlation analysis. In addition, a single risk score was compiled for each subject based on a sum total of the four individual risk factors (having multiple and/or anonymous sexual partners, not having had an

AIDS test, irregular condom use, and having unprotected alcohol-related sex). This new variable was used as the dependent variable in a stepwise regression analysis.

RESULTS

Demographic

The mean age of the sample was 23.7 years. The sample was fairly evenly divided among those who listed their ethnicity as Chinese, Filipino, or as other Asian (Vietnamese, Japanese, Pacific Islander, Laotian, Indonesian, or Malaysian). Seventy-five percent of the sample had at least some college education, while the remainder were all high school graduates. One fifth described themselves as students, while most worked full time. Almost half the sample described themselves as Catholics or other Christian, with a substantial number (a little over one third) reporting no religious affiliation. The remainder were Buddhist. Most respondents described themselves as living with friends, alone, or with a parent. The majority of the sample described themselves as either middle or upper middle-class (See Table 1).

The sample was evenly divided between individuals who had been born in this country and individuals who had been born outside the United States. However, comparisons between these two subsets revealed no significant differences in terms of any of the study's demographic variables, including age, ethnicity, religion, socioeconomic status, income, education, onset age of sexual activity, current level of sexual activity, condom use, or HIV testing; nor were there differences between native-born and foreign-born respondents in terms of HIV-related knowledge or trust of knowledge, comfort communicating with their sexual partner about HIV, attitudes toward testing, or cultural attitudes. Thus, despite the difference in country of origin, the sample was extremely homogenous in terms of demographic and attitudinal variables.

Descriptive

There was only partial confirmation that this population held certain stereotypic views re-

TABLE 1. DEMOGRAPHICS: COMBINED SAMPLE

Category	(%)
Ethnicity	
Chinese	31.7
Filipino	30.0
Other Asian	38.3
Education	
Some college	75.0
High school graduates only	25.0
Employment	
Full-time students	20.0
Blue collar	31.1
White collar	46.7
Unemployed	2.2
Religious affiliation	
Catholics, other Christian	48.3
Buddhist	15.0
No affiliation	36.7
Socioeconomic status	
Middle/upper middle	64.4
Lower/middle	35.6

Age \bar{x} = 23.7; SD = 3.7; range = 18 to 30.

garding AIDS that have been reported in other studies of Asian populations. On the one hand, the mean value of agreement with the statement, "AIDS is a Westerner's disease" was only 1.37 ($SD = .91$) on a scale of 1–5, with 5 equal to maximum agreement. However, 17.0% of the sample agreed somewhat to completely with this statement. Similarly, the mean for the statement "AIDS is not a problem in my culture" was only 1.70 ($SD = 1.01$), but 25% agreed somewhat to completely that this statement was accurate. Somewhat larger numbers of subjects agreed with the statements: "Only gay men will get AIDS," ($\bar{x} = 2.57$, $SD = 1.50$) (51.7% agreed somewhat to completely); "You can avoid contracting AIDS by choosing only same-race sexual partners" ($\bar{x} = 3.00$, $SD = 1.46$) (65% agreed somewhat to completely); and "One's gender role in sex is important in determining the risk of contracting AIDS" ($\bar{x} = 2.52$, $SD = 1.53$) (54.3% agreed moderately to completely).

Subjects were knowledgeable about HIV/AIDS. Out of a total possible 12 points on the knowledge scale, the mean score was 9.71 ($SD = 1.69$).

The sample reported getting some to a great deal of their information about HIV/AIDS from friends (86.2%), clinics (73.6%), magazines and newspapers (71.7%), followed by television (68.3%), school (58.3%), and work (51.7%).

Only 30% reported getting information from siblings, while only 26.6% reported getting information from parents.

In terms of sexual practices, in the past week, 88.3% of subjects reported having had oral sex, and 69.5% reported having had anal sex with another man. Approximately 42.4% reported having engaged in vaginal sex at some point in the past, and anecdotally most of these heterosexual encounters occurred in the early part of their lives before they had fully accepted themselves as homosexual. Because 47.0% reported themselves in a monogamous same-sex relationship, while the remainder described relationships with multiple and/or anonymous same-sex partners, and because most of the subjects verbally identified themselves as homosexual, it is reasonable to conclude that in fact these individuals were predominately homosexual rather than bisexual. In terms of sexual activity levels, 69.5% reported themselves to be very active, 18.6% described themselves as slightly to moderately active, and 11.9% were not at all active currently.

Seventy percent of this sample had been tested for HIV (93.3% of these within the last year). Only one quarter admitted to having had alcohol-related unprotected sex. Sixty-six percent of respondents reported using a condom "always" or "almost always," with the remainder reporting usage only "sometimes" or "almost never." Only two individuals in the sample admitted to ever having used intravenous street drugs.

Intercorrelations among independent informational and attitudinal variables
(See Table 2)

Discomfort with communication about safer sex practices was correlated negatively with

trust of HIV-related information and knowledge, and positively with discomfort with HIV-testing and more stereotypic cultural beliefs about AIDS. Other correlations showed negative relationships between trust of information and stereotypic cultural beliefs, and between HIV-related knowledge and attitudes toward testing.

Intercorrelations among demographic variables

Age, income and education were all modestly correlated ($r = .25 - .27; p < .05$). Level of sexual activity was negatively correlated with both age ($r = -.41; p = .001$) and education ($r = -.29; p < .05$). There were no other significant demographic correlations.

Intercorrelations among dependent variables

A correlation matrix of the four dependent variables shows that, in general, they were not highly intercorrelated (See Table 3). Having multiple and/or serial sexual partners was modestly correlated with having unprotected sex under the influence of drugs and alcohol, while having been tested for HIV was associated with irregular condom use.

Relationships between high-risk behaviors and independent variables

Subjects with multiple or serial partners reported significantly more discomfort discussing safer sex practices with partners ($\bar{x} = 13.4$) than did monogamous subjects ($\bar{x} = 8.13$) ($t = -4.58, df = 43.6, p = .0001$). Subjects with multiple or serial partners were also more likely to have started these sexual activities at an earlier age ($r = .37; p < .03$). Level of sexual activity was highly correlated with multiple anonymous partners ($r = .61, p = .0001$).

TABLE 2. CORRELATIONS AMONG INDEPENDENT VARIABLES

	1 Trust information	2 Knowledge	3 Attitudes to testing	4 Safe-sex communication	5 Cultural attitudes
1.		.16	-.10	-.54 [†]	-.54 [†]
2.			-.41**	-.28*	-.16
3.				.40**	.14
4.					.42**

* $p < .05$; ** $p < .01$; [†] $p < .001$.

TABLE 3. CORRELATIONS AMONG DEPENDENT VARIABLES

	1 <i>Multiple partners</i>	2 <i>Drug-related unprotected sex</i>	3 <i>Never been tested for HIV</i>	4 <i>Irregular condom use</i>
1.		.28*	-.15	-.15
2.			-.20	.10
3.				.28*

* $p < .05$.

Those subjects who had not taken an AIDS test were significantly younger ($\bar{x} = 20.7$) than those who had been tested ($\bar{x} = 25.1$) ($t = 5.82$, $df = 47.5$, $p = .0001$). They also were significantly more likely to be less well educated ($\chi^2 = 8.57$, $df = 1$, $p = .003$), and reported somewhat less trust in AIDS/HIV information sources than did those who had been tested ($\bar{x} = 16.7$ vs. $\bar{x} = 20.5$) ($t = -2.23$, $df = 20.8$, $p = .04$). Individuals who had not been tested held significantly more stereotypic cultural attitudes than those who had been tested ($\bar{x} = 18.6$ vs. $\bar{x} = 14.9$) ($t = -2.32$, $df = 29.4$, $p = .03$). Subjects with a higher level of sexual activity were slightly more likely to have had an AIDS test than those who were not ($r = .26$; $p = .04$). Discomfort with HIV testing was not related to actually having been tested.

Subjects who reported using condoms irregularly were more likely to distrust sources of information about AIDS/HIV ($\bar{x} = 26.4$) than were those individuals whose condom usage was consistent ($\bar{x} = 31.0$) ($t = -3.75$, $df = 49.0$, $p = .0005$). Regular condom usage was correlated with vaginal ($r = .35$, $p = .03$), but not anal intercourse ($r = .11$, n.s.).

Subjects who reported having had unprotected sex associated with drug or alcohol use were less knowledgeable about AIDS/HIV issues ($\bar{x} = 6.5$) than those who had never had drug/alcohol-related unprotected sex ($\bar{x} = 7.6$) ($t = 2.09$, $p = .04$). They also tended to be more uncomfortable discussing safer sex practices

($\bar{x} = 15.7$) than those who did not report such impulsive behavior ($\bar{x} = 11.8$), a finding that approached but not achieve significance ($t = -1.85$, $p = .06$). Having had drug or alcohol-related unprotected sex was also very moderately correlated with greater level of sexual activity ($r = .25$; $p = .05$).

All demographic and other independent variables were correlated with the overall risk measure (See Table 4). In these analyses, age and education were negatively correlated with risk ($r = -.30$ and $-.42$, respectively), while discomfort in communicating with one's sexual partner and level of sexual activity were positively correlated with risk [$r = .35$ ($p < .01$) and $r = .28$ ($p < .05$), respectively]. Culturally stereotypic attitudes and trust of HIV-related information were marginally, but not significantly, associated with risk [$r = .23$ ($p = .08$) and $r = -.23$ ($p = .10$), respectively].

A stepwise regression analysis in which all variables with bivariate correlational p values of $< .05$ were entered into the equation explained 27.54% of the overall variance. Only three variables entered in significantly, education explaining 15% of the variance, level of sexual activity and age responsible for 7% and 6% of the variance, respectively (see Table 5).

DISCUSSION

A subset of Asian males in this sample were somewhat likely to hold certain culturally in-

TABLE 4. CORRELATIONS OF DEMOGRAPHIC AND ATTITUDINAL VARIABLES WITH OVERALL RISK

	Age	Education	Sexual activity	Trust information	Safe-sex communication	Cultural attitudes
Total risk	-.30*	-.42 [†]	-.28*	-.23	.35**	.23

* $p < .05$; ** $p < .01$; and [†] $p < .001$.

fluenced views regarding AIDS, such as the belief that the race of one's partner or one's own gender role in the sexual encounter determines one's risk for contracting AIDS, but were less likely to endorse other statements (e.g., regarding AIDS as an exclusively homosexual disease, believing that AIDS was not a problem in the Asian community). Other studies have reported similar beliefs among Asians; for example, Caucasian sex partners being considered riskier because they are viewed as more promiscuous or that AIDS is a gay disease.¹²

In contrast to other studies of Asian communities,¹⁷ preferred sources of HIV/AIDS-related information in this sample were most frequently the informal source of peers. Our subjects also seemed to rely on clinics for information slightly more than on mass media, and appeared to have received significant amounts of HIV/AIDS-related information from school and workplace settings. Consistent with other published findings, the least likely source of information was family members, including siblings and parents.

In terms of factors associated with overall high risk, demographic rather than informational and attitudinal factors were responsible for the attributable variance. Individuals who were younger, more poorly educated, and characterized by higher levels of sexual activity were more at risk than their older, better educated, and less sexually active counterparts. However, bivariate analyses showed relationships between risk and discomfort communicating about sexual practices, (marginally) stereotypic HIV-related cultural attitudes, and mistrust of HIV-related information, indicating that attitudinal variables remain important areas for research. Further, the knowledge, trust, and communication scales were all significantly correlated (either positively or nega-

tively) with subject education, age, or both, suggesting that the younger, less well-educated higher risk subjects also had worse HIV-related knowledge, less trust in HIV-related information, and more difficulty communicating to partners about safer sex practices.

As additional support for the argument favoring the importance of informational and attitudinal factors, when individual risk factors were analyzed separately, significant differences emerged related to attitudinal variables. For example, stereotypic HIV-related cultural values were associated with less likelihood of having been tested for HIV. Individuals who were not able to communicate comfortably about safe-sex practices were also more likely to be involved in multiple anonymous sexual relationships and were more likely to engage in impulsive alcohol-related unprotected sex. However, unlike studies of Caucasian samples, this communication factor was not related to higher levels of condom use in general.¹⁸

Particularly troubling was the finding that, despite one third of the sample only sometimes or never using a condom, almost no cultural, knowledge, or attitudinal factors were associated with regular condom use. Distrust of HIV-related information was related to irregular condom use, complicating potential education efforts regarding the importance of condoms. Further, the fact that regular condom usage was associated with vaginal, but not anal intercourse suggests that condoms were viewed primarily as a mechanism to prevent pregnancy, rather than to avoid sexually transmitted diseases, including HIV.

Finally, it is worth noting that although demographic and attitudinal variables were associated with having been tested for the HIV virus, one's attitude toward testing had no relationship. Thus, whether individuals were more or less fearful or anxious about testing ultimately was not related to whether they actually obtained testing. This finding suggests that factors such as age (perhaps a stand-in for either sexual experience or maturity), education, nature of sexual practices, and less stereotypic cultural beliefs are more important in determining actual testing behavior than test-specific anxiety and fear.

The generally high level of knowledge found

TABLE 5. STEPWISE REGRESSION WITH DEPENDENT VARIABLE TOTAL RISK

Variable	Partial R ²	B	T	P
Education	.149	-.775	-3.00	.004
Age	.067	-.597	-2.37	.02
Level of sexual activity	.059	-.561	-1.96	.05

Total R² change = .2754; F = 7.336; P = .0003.

in this study regarding safer sex practices and modes of HIV transmission was consistent with findings of the Singer study,¹² which noted that men who acknowledged having sex with other men tended to be better educated regarding safer sex practices than other members of their cultural community. However, as in other studies, knowledge had no relation to risk-reduction behavior,¹³ with the exception of its association with substance-related unsafe sexual practices. It also appeared that there was no relationship between correctly responding to generic HIV-related knowledge questions about methods of transmission or accuracy of testing and holding certain culturally based inaccurate beliefs, such as the belief that one's gender role during intercourse (i.e., dominant or subordinate) or the race of one's partner could influence susceptibility to contracting HIV.

Several limitations must be noted in considering the findings of this study. Specifically, the time-limited period available for recruiting subjects and the consequent small sample size put significant constraints on its generalizability. In particular, the homogeneous nature of the sample means that study results are only applicable to a relatively young, well-educated, fairly economically secure population of gay Asian males who were quite knowledgeable about HIV/AIDS. It is likely that other segments of the gay Asian community exist which are less knowledgeable about issues of transmission and infection than was this sample. Of related concern is the fact that subject recruitment was conducted through AIDS Resource Centers, despite our awareness that only Asian males who were more open about their sexual orientation would frequent such locations. Finally, because our questionnaires were restricted to English only, we were forced to eliminate non-English speaking subjects, who might well have differed on important dimensions from the subjects of this study. Future studies should use random sampling that assesses the full socioeconomic spectrum, as well as utilize a strong ethnographic component.

Despite these limitations, the study raises several interesting issues. First, it points to the existence of a younger, less well-educated, more sexually active subset of the gay male

Asian community that is more likely to engage in risky sexual behaviors. Second, it appeared to be the case that a small but significant minority of respondents endorsed certain stereotypical HIV-related cultural views, which in turn were at least marginally related to certain high-risk behaviors. Further, despite high levels of HIV-related knowledge, the frequency of irregular condom use in this sample (33%) is a source of concern.

Finally, although open communication about sexual practices emerged in this study as an important factor associated with certain lower risk behaviors, many Asians continue to experience a reluctance to engage in these types of explicit discussions compared to Anglo counterparts.⁷ Educational outreach efforts within this community should address inaccurate stereotypes, reduce the stigmatization associated with information acquisition, and develop culturally appropriate models that promote open communication.

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